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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/059,238	01/31/2002	Kenichi Ono	218888US2	6552

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ALEXANDRIA, VA 22314

EXAMINER

PHAM, HAI CHI

ART UNIT	PAPER NUMBER
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2861

DATE MAILED: 06/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/059,238

Applicant(s)

ONO, KENICHI

Examiner

Hai C. Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 14-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 14-20 and 23-26 is/are rejected.
- 7) ☒ Claim(s) 8, 9, 21 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

FINAL REJECTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 4-7, 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Sasanuma et al. (U.S. 6,091,512).

Sasanuma et al., an acknowledged prior art, discloses a multi-beam image forming apparatus comprising an image input part (reading apparatus 23) configured to input image data obtained by scanning each scan line of an original image (the reading apparatus having a CCD line sensor 7 for capturing the image of an original document line by line), a plurality of density conversion parts that convert, for each of the plurality of light beams, a resolution density of the input image data into a resolution density different for each input scan line (each of the successive lines of the line-direction image data being subjected to a density conversion using a different conversion characteristic for each line) (col. 2, lines 34-44), the input image data being a multi-level image data to be corrected to a predetermined density conversion different for each scan line (col. 5, lines 13-19).

Sasanuma et al. further teaches:

- a plurality of data conversion parts provided individually for the corresponding light beams (Fig. 13A),
- wherein each of the data conversion parts includes a data conversion table (y LUTs) using a storage part,
- a control part that sets any independent value in each of said conversion tables for the corresponding light beam (independent random number generators 406) (Fig. 13A),
- the light beams are output differently from each other based on the modulation code data (each of the laser diodes 9 having its own pulse width modulation circuit 411).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 14-16, 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pugsley (U.S. 3,956,583) in view of Sasanuma et al.

Pugsley discloses an image forming apparatus comprising an image input part (analyzing head/scanner 5) configured to input image data obtained from scanning each scan line of an original image (the image of the transparency 1 being read/scanned line by line by the analyzing head/scanner 5). (col. 2, lines 14-16) (col. 3, lines 34-36) and a

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data conversion part that converts a resolution of the image data input by said image input part (col. 1, line 65 to col. 2, line 13) (col. 3, lines 50-57), wherein said image input part is configured to input to said data conversion part one scan line of the image data a plurality of times in succession (the scan line image as read by the analyzing head 5 is of a first line pitch or resolution, and is modified n successive times to produce a converted image data having a pitch or resolution n times higher) (col. 1, line 65 to col. 2, line 13).

Pugsley fails to teach said data conversion part converting the resolution into a resolution different for each input scan line.

Sasanuma et al., an acknowledged prior art, discloses a multi-beam image forming apparatus comprising a density conversion part that converts a resolution density of the input image data into a resolution density different for each input scan line (each of the successive lines of the line-direction image data being subjected to a density conversion using a different conversion characteristic for each line) (see abstract) (col. 2, lines 34-44).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the device of Pugsley with a resolution density conversion part that converts a resolution density of the input image data into a resolution density different for each input scan line as taught by Sasanuma et al.

Pugsley also fails to teach the conversion table using a storage part, a control part that sets any value for each of the scan lines in said conversion table.

Sasanuma et al. teaches said data conversion part comprising a conversion table (Y LUT) using a storage part (Fig. 13A), a control part that sets any value for each of the scanning lines in said conversion table (e.g., using a random number generator 406).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the conversion tables using a storage part and the random number generator for setting any value for each of the scan lines into the device of Pugsley as taught by Sasanuma et al. The motivation for doing so would have been to realize optimum grayscale reproduction of the image as suggested by Sasanuma et al. at col. 2, lines 25-26.

Allowable Subject Matter

5. Claims 8-9 and 21-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments with respect to claims 1-7, 14-20 and 23-26 have been considered but are moot in view of the new grounds of rejection.

Conclusion

7. Applicant's amendment, which changed the scope of each of the base claims, necessitated the new grounds of rejection presented in this Office action. Accordingly,

THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vip Patel can be reached on (571) 272-2458. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM
PRIMARY EXAMINER

May 17, 2006